

OBJECTIVES: Ontario (ON) and Québec (QC), the two largest provinces in Canada, have public programmes for immunization against influenza. We aimed at reviewing and presenting differences and similarities between the two provinces, and identifying resources allocated to respective programmes. **METHODS:** Government and health professions information sites (medicine, nursing, pharmacy) were searched, as well as the grey literature, supplemented by direct communication with health care professionals. Resources (professional services and materials) were identified and listed, considering both Ministry of Health and patient perspectives. **RESULTS:** Major differences were identified in both eligibility of patients and provision of flu shots (FS). QC limits the FS to the elderly (60 years or older), infants (6-23 months) and persons "at risk" (persons with chronic conditions, living in isolated communities, health care workers, caregivers and those travelling to endemic areas). ON has a universal programme covering the entire population except infants (under 6 months of age) and persons in whom the vaccine is contraindicated. In QC, FS are administered mainly by public health nurses and physicians, while in ON, FS can also be injected by trained and certified pharmacists (for persons 5 years of age and older). ON Pharmacies where FS are administered can directly bill the Ministry of Health for an honorarium for each injection. There are also differences between rural and urban areas with regard to eligibility in the case of QC and possibly access to FS in both provinces. **CONCLUSIONS:** The ON programme is more comprehensive than the QC programme, both by expanded population eligibility and through increased availability of resources by making FS available at certified pharmacies. This work will prepare the ground for a future comparative economic analysis.

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TRENDS IN MEDICARE PART D MEDICATION THERAPY MANAGEMENT ELIGIBILITY CRITERIA

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OBJECTIVES: To describe trends in eligibility thresholds of Medicare medication therapy management (MTM) services to identify patterns that may hinder eligibility/enrollment. MTM Services were established in 2006 as part of the Medicare outpatient prescription drug (Part D) benefit. MTM eligibility was based on number of chronic conditions, Part D medications, and total drug costs. To increase MTM enrollment rate, the Centers for Medicare and Medicaid Services (CMS) lowered the allowable eligibility thresholds to at or below 3 for number of chronic diseases and at or below 8 for Part D drugs, and drug cost threshold from \$4,000 to \$3,000 in 2010. However, an increase in MTM enrollment rates has not been seen. **METHODS:** This study analyzed data extracted from the Medicare Part D MTM Programs Fact Sheets published on the cms.gov website. Fact Sheets for 2008-2013 were used to search for changes and trends over time that may potentially affect the enrollment rate for Medicare beneficiaries. These years were the only ones available from the cms.gov website. **RESULTS:** In 2008, 48.7% plans opened MTM enrollment to patients with only two chronic disease states, while the other half restricted enrollment to patients with a minimum number of three to five chronic disease states. Data for years 2011-2013 indicate that approximately 20% of plans opened enrollment to patients with 2 chronic disease states, with the remaining 80% restricting enrollment to patients with 3 or more chronic diseases. The trends for both Medicare Advantage plans and independent Part D plans were similar. CMS policy change in 2010 is also correlated with increase proportion of plans set their eligibility threshold at 8 part D drugs, the maximum number allowable. **CONCLUSIONS:** Changes to the eligibility thresholds may have been barriers for increased MTM enrollment. CMS needs to find alternative strategies to increase MTM enrollment.

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THE IMPLEMENTATION OF MEDICARE PART D AND THE HEALTH IMPLICATIONS OF MEDICATION THERAPY MANAGEMENT ELIGIBILITY CRITERIA

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OBJECTIVES: To determine whether the implementation of the Medicare Part D in 2006 was associated with changes in differential racial and ethnic disparity patterns between the individuals ineligible for medication therapy management (MTM) services and MTM-eligible individuals. If Part D implementation is not associated with reductions in greater racial and ethnic disparities in MTM-ineligible than the MTM-eligible individuals, the urgency for modifying MTM eligibility criteria would be even increased. **METHODS:** Data from the Medicare Current Beneficiary Survey were analyzed. A generalized difference-in-differences analyses, difference-in-differences-in-differences-in-differences (DDDD) model, was used to examine changes in difference in disparities between the MTM-ineligible and MTM-eligible individuals from 2004-2005 to 2007-2008 in relation to the changes from 2001-2002 to 2004-2005. Disparities were examined in health outcomes, health services utilizations/costs, and medication utilization patterns. MTM eligibility criteria for 2010 were examined and both main and sensitivity analyses were conducted to represent the ranges of the MTM eligibility thresholds used by insurance plans. Various regression models varied according to the type of dependent variables. **RESULTS:** The main analysis found no significant DDDD values. For racial disparities, according to some sensitivity analyses, Part D implementation was associated with a reduction in greater racial disparities among the MTM-ineligible and MTM-eligible individuals in activities of daily living (DDDD=1.13; P=0.03 for one analysis) and instrumental activities of daily living (DDDD=0.95; P=0.03 for one analysis). For ethnic disparities, Part D implementation was associated with reduction in any greater disparities among the MTM-ineligible than MTM-eligible individuals in costs of physician visits (DDDD=-4613.71; P=0.04 for one analysis) and high risk medication utilization (DDDD=-0.10; P=0.03 for one analysis). **CONCLUSIONS:** Part D implementation is not consistently associated with reductions in the disparity implications of the

Medicare MTM eligibility criteria. The Medicare MTM eligibility criteria need to be modified in order to eliminate their disparity implications.

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POTENTIAL EFFECTS OF RACIAL AND ETHNIC DISPARITIES IN MEETING MEDICARE

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OBJECTIVES: To examine racial and ethnic disparities in health status, health services utilizations and costs, and medication utilization based on Medicare medication therapy management (MTM) eligibility status. Greater disparities among MTM-ineligible than MTM-eligible individuals would suggest that MTM eligibility criteria have the potential to exacerbate racial and ethnic disparities in health outcomes. **METHODS:** This is a retrospective cross-sectional analysis of the Medicare Current Beneficiary Survey (2007-2008). A difference-in-differences model was used by including in regression models interaction terms between dummy variables for, e.g., non-Hispanic Blacks and MTM eligibility criteria, when examining racial disparities. Both main and sensitivity analyses were conducted to represent the ranges of the MTM eligibility thresholds used by insurance plans in 2010. The interaction term was interpreted on both the multiplicative term and the additive term. Various regression models were used. **RESULTS:** Whites were more likely to report self-perceived good health status than Blacks and Hispanics among both MTM-eligible and MTM-ineligible populations. Disparities were greater among MTM-ineligible than MTM-eligible populations (e.g., on additive term, difference in odds=1.94 and P<0.01 for Whites and Blacks; difference in odds=2.86 and P<0.01 for Whites and Hispanics in main analysis). When examining racial disparities, activities of daily living, instrumental activities of daily living, and generic possession ratio produced similar findings. Whites had a higher number of physician visits than Hispanics and the disparities were greater among the MTM-ineligible than MTM-eligible individuals (incidence rate ratio=1.40; P<0.01). Analyses on chronic conditions, costs of physician visits, hospitalizations, and total health care costs produced similar patterns on ethnic disparities. No other variables exhibited significant findings. **CONCLUSIONS:** Current MTM eligibility criteria may potentially aggravate existing racial and ethnic disparities in health services utilization and costs and medication utilization measures. Future research should examine strategies to remediate the effects of MTM eligibility criteria on racial and ethnic disparities.

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OUTPATIENT VISITS TO THE CATH LAB FOR CORONARY ANGIOGRAPHY RESULTING IN MINIMAL ACTION IN THE SHORT TERM

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OBJECTIVES: To understanding the clinical care pathway and patient characteristics of those patient visits that use the catheterization laboratory (cath lab) but do not result in a percutaneous coronary intervention (PCI) and/or coronary artery bypass surgery (CABG) procedure shortly thereafter. The target population is those patient visits that are outpatient and elective, rather than those coming in through the emergency room, or inpatient admissions. **METHODS:** The Premier hospital database from July 1, 2011 through June 30, 2012 was utilized as the data source. This database contains complete patient billing, hospital cost, and coding histories from more than 600 hospitals and ambulatory facilities throughout the United States. Eligible patients were > age 45 at the time of the coronary angiography visit, and must have had one of the following primary diagnosis of Atherosclerosis or chest pain using the International Classification, 9th Revision (ICD-9): I44.01, 786.5, or 786.59. Patient visits with a diagnosis code(s) for myocardial infarction or stroke/trans-ischemic attack were excluded. Patients that died during the visit were excluded as well. **RESULTS:** Of 354,790 coronary angiography visits identified, 68,026 visits (19.2%) met the inclusion criteria. Only 7% of patient visits (4,788) resulted in a return visit within 60 days for a PCI (29%), CABG (71%), or both (<1%). Less than 2% (81) came back to the hospital through the ER. Total median coronary angiography cost per visit for the group of interest was \$2,565, with the cardiology department accounting for 57% (\$1,470) of costs. Left heart cardiac catheterization was the most common procedure (86%). **CONCLUSIONS:** There appears to be a substantial population receiving elective coronary angiography, with no immediate action resulting from that visit. Technologies that could enable another clinical pathway to avoid the cath lab and an invasive procedure may lead to lower hospital costs.

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EFFECT OF INPATIENT ADMISSIONS ON TREATMENT REGIMENS IN PATIENTS WITH TYPE 2 DIABETES

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OBJECTIVES: Inpatient admissions may represent an important opportunity for the review and revision of treatment regimens of type 2 diabetes mellitus (T2DM) patients. This retrospective study seeks to assess the impact of inpatient admissions on modification of T2DM pharmacotherapy regimens. **METHODS:** A retrospective cohort of Humana Medicare Advantage Prescription Drug (MAPD) and commercial patients with T2DM with at least one inpatient stay between January 2007 and December 2012 was identified (IPH group). The date of first inpatient hospitalization was defined as the index date. Patients with at least 12 months of continuous eligibility pre-index and post-index were identified. A non-inpatient admission comparison group (non-IPH group) of T2DM patients was propensity score-matched on age, gender, plan enrollment and diabetes complication score. The primary outcome of interest was treatment modification, defined as an addition, switch or discontinuation of an anti-diabetic drug class within 10 days post-discharge. **RESULTS:** The study cohort comprised 34,624 patients with T2DM (17,312 matched pairs). The IPH group had